

Abstract

Cardiac Resynchronization Therapy Optimization Using Trans Esophageal Doppler in Patients With Dilated Cardiomyopathy.

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Introduction: cardiac resynchronization therapy (CRT) has proved to be particularly successful. Application of CRT remains a challenge, both from the technical aspect and optimization. Transesophageal Doppler is a simple Hemodynamic monitoring technique.

Objectives: We investigated the utility of trans esophageal Doppler to optimize cardiac resynchronization therapy (CRT) parameters.

Methods: thirty patients underwent CRT implantation, baseline 2D echocardiogram (echo), 6 min walk distance, and quality of life (QOL) questionnaire within 1 week of implant. Following implant, 15 patients (**group A**) had their CRT, CRTD device A-V delay and V-V delay optimized using trans esophageal Doppler. Optimal parameters were programmed. 15 patients (**group B**) were left with fixed AV delay 120 ms and fixed VV delay 0 ms .Echo, 6 min walk, and QOL were repeated at 3-6 months post-implant.

Results: All parameters showed a significant improvement at follow up when compared to baseline for whole study population , in comparison of the degree of improvement in both groups to each other, group A showed a statistically significant improvement at follow up in LVED percentage of improvement compared to group B (11.9%±11% VS 1.5%±6.5% P value 0.004) . Also in the measurements of LVES & EF% (5.15cm±0.9cm & 38.5% ±9% for group A versus 5.9cm±0.9cm & 31.4%±8.8% for group B, (P value 0.03 & 0.04 respectively) . Although comparing the degree of improvement in clinical parameters in both groups did not show any statistically significant difference in QOL (41.6±21.46 VS 50.67±20.19,respectively) or in six minute walk test (358.67±131.4 VS 265.87±126.2 respectively).

Conclusion: we can conclude that using the Transesophageal Doppler for optimization of CRT devices can only improve some of the Echo parameters with no impact on clinical parameters.

Key words: CRT, cardiac resynchronization, Transesophageal Doppler.